COMMONWEALTH OF AUSTRALIA
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APPLICATION FOR A PATENT

SECTION 34(4)(a) DIRECTION SEE FOLIO 4.

NAME DIRECTED GRIFFITHS ENGINEERING PTY. LTD. OF 88 Goodall Street, Cootamundra, New South Wales, 2583

Australia hereby apply for the grant of a Patent for an invention entitled:

STOCK FEEDER

which is described in the accompanying provisional specification.

My address for service is:

H.R. HODGKINSON & CO
Patent and Trade Mark Attorneys
26A Alfred Street
MILSONS POINT NSW 2061

Dated this 13th day of September 1985.

JOHN HUGH GRIFFITHS
Patent Attorney for the Applicant

To: The Commissioner of Patents
COMMONWEALTH OF AUSTRALIA
COMMONWEALTH OF AUSTRALIA
Patents Act 1952

DECLARATION IN SUPPORT
OF AN APPLICATION OR
A CONVENTION APPLICATION FOR A
PATENT OR PATENT OF ADDITION

In support of the Application made by JOHN HUGH GRIFFITHS
for a patent/patent-of-addition for an invention entitled: STOCK FEEDER

I, JOHN HUGH GRIFFITHS,

care of the applicant company do solemnly and sincerely declare as follows:

**(1) I am the applicant for the patent/patent-of-addition.

**(2) I am authorised by the applicant for the patent/patent-of-addition to make this declaration on its behalf.

**(3) I am the actual inventor of the invention.

**(4) The basic application(s) referred to in paragraph 2 of this Declaration is/are the first application(s), made in a Convention country in respect of the invention the subject of the application.

Declared at Sydney this 25th day of September 1936.

JOHN HUGH GRIFFITHS

Patent Attorneys,
Sydney.

To: The Commissioner of Patents,
Commonwealth of Australia.
1. A stock feeder comprising a bin having end-walls; filling openings adjacent the top of the said bin, said filling openings being closable by at least one lid; a downwardly-sloping upper side-wall at each side of said filling openings; at least one inner dividing wall extending between said end-walls and terminating above said floor; and a low side-wall extending upwardsly from each side of the said floor; the arrangement being such that said low side-walls and the or each inner dividing wall define feed trough compartments which are protected from precipitation by the said downwardly-sloping upper side-walls which overhang said feed trough compartments.
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COMPLETE SPECIFICATION

(ORIGINAL)

Class Int. Class

Application Number: 61031/66
Lodged:

Complete Specification Lodged:
Accepted:
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Priority:

Related Art:

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Complete Specification for the Invention entitled:

STOCK FEEDER

The following statement is a full description of this invention including the best method of performing it known to me:
THIS INVENTION relates to stock feeders. More particularly the invention relates to stock feeder bins which can be readily towed to a paddock site and around paddocks as required, and are capable of being easily and rapidly filled from above by hand, or from either side by bulk transports using augers, allow all types of feed used to flow freely to the trough, and are adapted to keep stock feed dry under normal paddock conditions. In addition, the feeder related to is constructed so as not to be damaged by stock bumping or rubbing against the feeder and cannot be tipped over by stock or heavy wind. The bins are designed in such a way that there are no jagged edges or protrusions of any kind which may injure a beast during feeding or fighting adjacent to the feeder.

In the running of stock, such as cattle, it is often desired to provide supplemental hay or grain feedstuffs. to augment natural and improved grasses and to provide sustenance feeding of stock during period of drought when insufficient feed exists.

Lot feeding and fattening of cattle may be carried out using either troughs into which feed is placed 2 to 3 times a day, or by the use of feed bins such as the subject of the invention which facilitates this type of feeding and reduces considerably the necessity for constant attendance on the part of the feed lot operator. Grain may be available from open troughs or may be run onto the ground for sustenance feeding and hay is usually put onto the ground or fed from a
hayrack type of device. In either case, rain will spoil the feed, a great amount of wastage occurs as the stock feed. In addition, in wet weather, an accumulation of water on top of feed in troughs where the common molasses-urea mixture is used, can generate a real risk of fatal "urea poisoning".

It is therefore an object of the present invention to overcome the above and other disadvantages by the provision of a stock feeder which is weatherproof and comprises a bin having end-walls; a floor extending between the end-walls having a longitudinal peek; a filling opening at the top, this being closeable by at least one lid; a downward sloping side-wall at each side of the filling opening extending beyond the feeder trough; at least one dividing wall in the feed trough area between the end-walls and the trough itself each side of the feeder consisting of a low side-wall extending upwards from the floor; the arrangement being that such low side-walls together with one or each of the end or dividing walls constitute feed troughs departments which are protected from precipitation by the downward sloping side-walls which overhang the feed trough compartments. Each of the end-walls may be an irregular hexagon, the said floor extending between the two base sides of the hexagon and the said filling openings extending between the top sides of the hexagon.

Preferably, there are no spaced-apart inner dividing walls, the space between the hexagon ends constituting the hopper to be unrestricted and fillable through the one or more filler openings.
The feeder is adapted to deliver feedstock to the feed trough compartments via gaps defined between the inner longitudinal walls and the floor; ideally the bin should be mounted on skids for easy transport around the farm or for movement around feed lots.

To control the feed flow rate, the size of the gaps may be made variable by virtue of vertically slidable shutters associated therewith. The central ridge in the form of an inverted V extends from end to end of the floor, ensuring smooth and even delivery of feedstock to the feed trough compartments.

In order that a better understanding of the present invention may be gained, hereinafter is described a preferred embodiment thereof, by way of example only and with reference to the accompanying drawings, in which:

FIGURE 1 is a perspective view of a stock feeder according to the present invention; and FIGURE 2 shows, somewhat schematically, a transverse cross-section through the stock feeder.

As can be seen from the drawings, the stock feeder comprises a bin having hexagonal end-walls 1 and 2, and a substantially horizontal floor 3 extending therebetween. The bin has top filling openings 4 which may be closed by one or more lids, as 5, and at each side of the filling opening 4 is a downwardly-sloping upper side-wall 6, 7.

Accommodated within the bin and beneath the upper side-walls 6 and 7 are inner dividing walls 8 and 9 which extend
over the length of the bin between end-walls 1 and 2, and terminate above the floor 3 to provide gaps 10 and 11 through which feed, delivered through filling opening 4 into hopper portion 12, becomes available for consumption by stock.

Extending upwardly and outwardly from the sides of floor 3 are low side-walls 13 and 14 which, together with respective inner dividing walls 8 and 9, constitute feed trough compartments 15 and 16. There may be only one such feed trough compartment on each side of the bin, although lateral dividing walls, such as referenced 17 in Figure 1, should be incorporated to provide additional strength and to separate stock whilst feeding. A central ridge 18 runs from end to end of floor 3 to ensure stored feedstock being delivered smoothly and evenly to the feed trough compartments.

The size of the gaps 10 and 11 may be regulated to suit the feedstock contained in the feeder, be it whole grains, chaff or hammer-milled feedstock, by means of vertically slidable shutters such as that indicated by chain line and referenced 19 in Figure 2.

The damaging effects of adverse weather upon feedstock and the resultant possibilities of "urea poisoning" is considerably mitigated by the downwardly-sloping upper side-walls 6 and 7 which overhang the feed trough compartments and with gutter direct rain and water run-off away from the feedstock in the troughs in all but the most extreme conditions.
The stock feeder is able to be readily towed to a paddock or from site to site in a paddock, by virtue of skids 20 and 21 and towing brackets or loops 22 and 23; eyes 24 and 25 may be provided on the top of the feeder to enable it to be hoisted by crane or derrick or block and tackle and a ladder 26 gives access to the filling openings 4.

Ideally, the stock feeder may be fabricated from, say, 16 gauge steel stock and be perhaps 2600 mm in length, although dimensions, materials and the configuration of the inner dividing walls in particular may well vary with the kind and number of stock to be fed, and the design permits of ready construction of the inventive feeder in multiples of 2600 mm lengths.

In tests leading up to the present invention it was found that the stock feeder proved to be exceptionally rugged and very stable during towing and feeding. Use of the feeder tended to reduce the incidence of injuries often suffered by horned cattle during feeding from open troughs and/or ordinary feeders.

From the abovegoing, it will be readily appreciated that stock feeders constructed in accordance with the present invention will provide a new or much-improved apparatus or, at the very least, offer a most useful and very attractive choice.
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A stock feeder comprising a bin having end-walls; filling openings adjacent the top of the said bin, said filling openings being closable by at least one lid; a downwardly-sloping upper side-wall at each side of said filling openings; at least one inner dividing wall extending between said end-walls and terminating above said floor; and a low side-wall extending upwardly from each side of the said floor; the arrangement being such that said low side-walls and the or each inner dividing wall define feed trough compartments which are protected from precipitation by the said downwardly-sloping upper side-walls which overhang said feed trough compartments.

2. The stock feeder as claimed in claim 1, wherein a central ridge extends from end to end of said floor, said ridge having a cross-section of inverted V-shape to ensure smooth and even delivery of feedstock to said feed trough compartments.

3. The stock feeder as claimed in claim 1 or claim 2, wherein each said end-wall is an irregular hexagon, said floor extending between the two base sides of said hexagons and said filling openings extending between the top sides of said hexagons.

4. The stock feeder as claimed in any one of the preceding claims, wherein there are two spaced-apart inner dividing walls, the space therebetween constituting a hopper fillable through said filling openings and adapted to
deliver feedstock to said feed trough compartments via gaps defined between said inner dividing walls and said floor.
5. The stock feeder as claimed in any one of the preceding claims; wherein said bin is mounted on skids.
6. The stock feeder as claimed in any one of the preceding claims, wherein there is provided within the feed troughs of said feeder at least one lateral dividing wall.
7. The stock feeder as claimed in any one of the claims 4 to 6, wherein a centrally-disposed, lateral dividing wall is provided to thus constitute two or more said hoppers and four or more said feed trough compartments, there being at least two hinged, filling opening lids for each hopper.
8. The stock feeder as claimed in any one of the preceding claims, wherein said downwardly-sloping upper side-walls include gutters to channel water away from the said feed troughs to each end of said feeder.
9. The stock feeder as claimed in any one of claims 4 to 8, wherein the size of said gaps is variable by virtue of vertically-slidable shutters associated therewith.
10. A stock feeder, substantially as hereinbefore described with reference to the accompanying drawings.

Dated this seventh day of August 1986

by: Applicant's Patent Attorney
END